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ABSTRACT

The U.S. workplace needs to be transformed. Corporations should replace an approach to production and service that pits labor against management with an approach that unites management and labor in the pursuit of enhanced quality, enhanced responsiveness to the customer, and enhanced productivity. Human resource development is critical to this process of transformation. Companies that initiate basic skills programs are ripe for this change; they want to fix problems that hinder productivity. In the process, they can become high performance workplaces. A case study of United Electric Controls (UEC), a company that won the 1990 North American Shingo Prize for Quality in Manufacturing, shows that it started a basic skills program when its productivity and profitability began to slip in the 1980s. The basic skills program at UEC was not an end in itself, however, but part of a drive toward higher productivity through total employee involvement. The basic skills program resulted in higher worker self-esteem and more input from workers in finding and eliminating bottlenecks in the company's production processes. Eventually, basic skills classes were transformed into classes in which skills were taught and used to solve problems for the company. The focus was on continuous learning. (The paper contains a chart comparing traditional and high-performance work organizations.) (KC)

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# TRADITION AND CHANGE: THE ROLE OF WORKPLACE EDUCATION IN THE TRANSFORMATION OF THE WORKPLACE

presented by Sondra G. Stein, PhD
October 15, 1991, AAACE, Montreal

What is the role of workplace education programs in the transformation of the workplace? In workplaces that are already committed to a larger process of transformation can workplace education programs be consonant with that process, a factor in their further development? And what about in workplaces that haven't begun the process, or are just beginning it, what can workplace education programs do?

The questions that this paper will explore are based on three assumptions:

1) The first is that the American work organization needs to be transformed, for reasons articulated in America's Choice and numerous pieces by Robert Reich, including his recent book The Work of Nations. For their own good, for the good of our national economy and our national infrastructure, corporations need to leave behind an approach to production and service that pits labor against management because it's goal is to cut costs above all else; and to put in it's place an approach to production and service that unites management and labor in the pursuit of enhanced quality, enhanced responsiveness to the customer, and enhanced productivity.

2) The second assumption is that human resource development is critical to this process of transformation. A work organization cannot implement a continuous improvement strategy (a movement

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toward quality) without also implementing a continuous learning strategy. Fred Ritzau, the Human Resources VP of a company I will talk more about later, illustrates this point with a Chinese proverb:

> If you want one year of prosperity, grow grain.
> If you want ten years of prosperity, grow trees.
> If you want one hundred years of prosperity, grow people.

The importance of human resource development to the process of transformation is underlined in the application guidelines for the 1991 Malcolm Baldridge National Quality Award. I think many of you are aware of the role the Baldridge award is playing in driving many American corporations toward transformation of their workplaces. [More and more large corporations, like Motorla, GM and GE are requiring their divisions and suppliers to apply for this award as a mechanism for instituting an examination of quality and productivity.] 150 of the 1000 points in the Baldridge award are keyed to the category "Human Resource Utilization." The focus here is on "the effectiveness of the company's efforts to develop and realize the full potential of the work force... And to maintain an environment conducive to full participation, quality leadership, and personal and organizational growth."

I'd like to take a minute to summarize the five key areas identified in this category.

1) **Human Resource Management:** how the company's overall human resource management effort supports its quality objectives, addressing the key areas of: training, development, hiring, involvement, empowerment, and recognition.

2) **Employee Involvement:** the means available for all employees to contribute effectively to meeting the company's quality objectives: including management practices and specific mechanisms used to promote employee contributions; and actions to increase employee empowerment [authority to act], responsibility and innovation.

3) **Quality Education and Training:** how the company decides what quality education and training is needed and how it utilizes the knowledge and skills acquired. In terms of content, special emphasis is placed on development of problem-solving skills. In terms of process three areas must be addressed: needs assessment, delivery, and on-the-job reinforcement.

4) **Employee Recognition and Performance Measurement:** how the company's recognition and performance measures support quality objectives and how employees are involved in the development and improvement of performance measurements.

5) **Employee Well-being and Morale:** how the company maintains a work environment conducive to the well-being and growth of all employees.

3. My third assumption is that companies that initiate basic skills programs are ripe for this change. Workplaces that initiate basic skills programs do so because they have uncovered a problem that they believe requires basic skills programs to fix. In most cases the problem emerges when the company introduces new technology, new procedures or reorganizes work in order to improve productivity. These changes require workers to do their jobs differently or to do new, different jobs...jobs that the workers aren't prepared to perform without enhanced skills.

In other words, workplace education programs are introduced, in the main, as part of a strategy to improve the bottom line: the company needs to hold on to or increase market share in a situation of increased competitiveness, where the parameters for successful competition are changing. These changes create the conditions for companies to **choose** to become what America's Choice calls "high performance work organizations."

But as the concept of choice implies, it is not their only option. And every company that implements a basic skills program is not necessarily on the path or even interested in being on the path to becoming a high performance work organization. In his recent article in Labor Notes Tony Sarmiento points out that: "workplace literacy programs can help maintain outdated workplaces or they can foster high performance

workplace structures." What I would like to explore in this presentation is what workplace programs can do to help companies move along the path to transformation...toward meeting the standards articulated in the Baldridge Award.

As a first step, I'd like to look with you at this chart Laura Sperazi and I developed, comparing essential characteristics of traditional and high performance workplaces. We have developed the chart to provide a common starting point across diverse audiences for discussion of the transformation of the workplace. To this end, the chart brings together in one place what have been emerging as consensus definitions of these two types of work organizations and the kind of workplace education programs they give rise to. Please note that we are dealing with ideal types here: in fact, most workplaces would be found somewhere on the continuum between these two models.

Rather than comparing characteristics, I'd like to focus initially on the internal consistency of each model as we move from category to category. Let's look first at the traditional model to explore this consistency.

The first category we've developed, "View of the Production Process," focuses on what the work organization's overall strategy for success is.

The second category, " View of the Organization of Work," focuses on the consequences of this strategy in terms of:

a) how work is organized;

b) the roles and responsibilities of workers, and of various layers of management; and

c) how workers feel about themselves as workers, about management, and about the company.

In a company with a traditional view of the production process, the relationship between workers and managers/owners is often adversarial. As a result, workers are often hostile to the introduction of quality tools, whether we are talking about "quality circles," "statistical process control" or any of the many other quality tools we hear about these days. Within this traditional framework, where workers are used to employers responding to productivity issues through speed-ups or through adding or subtracting hours, job security is an important issue. Workers see the introduction of quality tools as 1) attempts to undercut their own organization, if they are unionized, 2) attempts to extract more for less (exploitation); or 3) an outright threat to their jobs.

And the workers are right. Because within this framework, quality tools are introduced without making changes in the work organization that would enable the workers to participate in the quality process. The assumptions, in terms of control over work,

in terms of the critical empowerment issues described in the Baldridge criteria, have not changed. Workers are still regarded as hands, not whole human beings.

If we move down the categories, still on the traditional side, to "Role of Education" we would expect, and indeed we find, a training model of education in place. It makes sense here. The goal is to have a short-term, task specific impact. So in this model, it makes sense to begin with a literacy audit to identify the specific reading, writing, and math, skills that are necessary to the performance of changed job tasks, and based on this audit, to design assessment instruments and curricula that will move workers as quickly as possible from where they are to where the company needs them to be.

Since education, in this framework, is viewed as **preparation for action**, the goal is to get down to the action as soon as possible. This means that there is often an impatience with the educational process, an insistence on the curriculum focusing only and narrowly on job specific issues. Within this model, there is no attempt to educate the whole person, since the company is not interested in the whole person. An educational process that deals with larger issues would be inappropriate, perceived as in conflict with the bottom line. And this is exactly what we find in many programs.

Understanding the internal consistency of this framework, seems helpful to me in understanding the differences between work place education programs. If you are working within a company that is organized in accordance with the traditional view of production, it is not surprising to find the corresponding view of the organization of work and the role of education. As educators we can say that we don't want to teach in this situation, but we have to acknowledge that this view of education is perfectly appropriate to this kind of work organization.

Thankfully, we have the bottom line on our side. As I suggested above, the conditions of the global market are making it less and less in the long term economic best interests of individual corporations to continue to cleave to this model.

More and more of the workplaces where we have the opportunity to introduce literacy and basic skills programs are experimenting ar expressing a willingness to experiment with moving toward becoming high performance work organizations. The Baldridge award has had a major impact on this. More and more major corporations (including Motorola and GM) are requiring their divisions and their suppliers to become applicants for the Baldridge award, as a mechanism to not only think through these issues but to develop and implement a strategic approach that emphasizes continuous improvement through total employee involvement. It is in this context that I believe we can

consciously use our workplace education programs to assist in the transformation.

The chart identifies the salient characteristics of high performance organizations as well -- I don't intend to walk through them now. Instead, I want to explore the dynamic relationship between workplace education programs and the larger process of transformation, by walking through the process in one company I have had the opportunity to work with over the past four years.

PART II: A Time for Change

The company I want to talk about is United Electric Controls, a company that in 1990 won the North American Shingo Prize for Quality in Manufacturing. Like most other companies, United Electric first stumbled across the need for workplace basic skills education only after declining profitability in the early 80's forced the company to examine itself and adopt a new strategy for change.

Founded in 1931 as a manufacturer of automatic process controllers, United Electric got it's jump start into profitability with World War II and soon after fell into what seemed a winning strategy of developing customized temperature and pressure instrumentation for a growing number of customers and a growing number of applications. By the early seventies,

UE's line included nearly 250,000 unique products and its responsiveness to the needs of its customers had earned the company a reputation for quality and service throughout the industry.

This reputation --and the profits it engendered -- began to suffer by the mid-eighties. The flip side of customization can be lack of standardization in a company where growth is unplanned. New departments and new work teams were added with every new product. As the organization expanded from it's core of two dozen original workers to nearly 300, it adopted an organizational structure consistent with theories of scientific management; UE became highly structured and departmentalized. In the manufacturing area alone, there were 56 individual job classifications. Five levels of supervision were in place to insure that the tasks of individual employees were coordinated into a step by step operation. As a result, UE ended up employing 120 workers to support the 160 who were actually assembling products.

To try to keep up with customer demands, computerized systems were installed to "manage" more data, automated equipment was purchased to enable them to produce more parts quicker and larger inventories were built to protect against missing parts. All of these actions required additional space and additional people. But lead times to customers grew longer, quality

problems began to surface and operating expenses grew considerably faster than sales. Not surprisingly, employees were increasingly disaffected, as well; there was an attempt to unionize the plant which underlined how far this family-owned firm had come a long from its early days when the two dozen employees worked together on all aspects of production, and everyone perceived themselves as part of one family.

How did the company turn itself around, winning the North American Shingo Prize in 1990? People at UE often talk about the changes there as the "Revolution that began with a Book." In the summer of 1986, Bruce Hamilton, the new Vice President of Manufacturing, brought in to turn things around read Eli Goldratt's novel "The Goal." The story of a company similar to United Electric and its efforts to improve customer service and quality, The Goal challenged the effectiveness of traditional solutions to manufacturing issues, encouraging managers to ask new questions to identify the real causes of organizational problems.

The Goal's focus on an inductive, company-wide search for bottlenecks in the organization, encouraged UE to return to it's roots. In the early days, weekly plant-wide meetings to discuss problems and strategies had fueled the growth of the company. Now, UE's management admitted they didn't know the solutions to the problems that faced them. Indeed, the failure of the

solutions they had proposed suggested they didn't even know the cause of the problem. In a move that launched the company on a new strategy of continuous improvement through total employee involvement, Bruce Hamilton bought copies of The Goal for every member of UE's workforce, and invited all the workers to join in a search to uncover bottlenecks and waste, to find ways to do everything better.

Total Employee Involvement

Continuous company-wide improvement through total employee involvement is a strategy which sees enhanced customer service and higher quality products as the result of the many small improvements made each day by many employees. It is a strategy in which every one can and must participate. As David Reis, UE's President has said, "Our only requirement for leadership of this strategy was willingness to read and willingness to lead."

By the fall of 1986, nearly one third of UE's employees had read The Goal and voluntarily attended "Goal Workshops". Through these five day workshops, developed and led by employees, participating employees learned how to identify bottlenecks in the manufacturing process and how to think about solutions. Then, they formed into teams called "Action Centers" and went back out on the floor empowered to identify bottlenecks and

propose solutions. Many workers asked for books to help them in their search, which led to more workshops and eventually to a company library in the Resource Center.

From this description, you might think that UE had an extremely well educated workforce. In fact, while the company had a relatively stable, long-term workforce composed of residents of the surrounding neighborhood, the plant, like the neighborhood itself, was multi-cultural and multi-lingual. Nearly 40% of the employees don't have English as a first language, but speak Armenian, Portuguese, Spanish and Vietnamese. This diversity of the workforce hadn't posed any difficulties as long as each worker was a self-sufficient unit, responsible for his or her own "work." The rich variety of languages spoken ensured that everyone had someone to speak to -- to explain tasks, to converse with at lunch. That was no longer enough. To be part of the new approach, every worker needed to be able to read, write and speak English.

This problem was uncovered by a Supervisor who initiated an Action Center on English Communication early in 1987 on the grounds that the lack of knowledge of English "inhibited departmental communications and prevented [workers] from learning new procedures and actively participating in the continuous improvement process." Thus, although UEC was embarking on a

strategy of employee involvement as it's path to improved quality, it's venture into workplace basic skills education was typical of more traditional companies. Lack of English speaking and reading skills were seen as a "bottleneck" to be eliminated like any other inhibitor of the improvement strategy; the English language classes initiated with the help of the Mass Workplace Education Initiative to remove the bottleneck were perceived as "remedial" -- a way to solve the problem so the company could get on with it's work. In this sense, the ESL classes had the same role as they did in companies introducing new processes (like statistical process control) and new technology as their path to improved quality and productivity.

TO SUMMARIZE: At this point we have a traditional company, embarking on a path to transformation, establishing a fairly traditional workplace basic skills program as preparation for the transformation. The promise here, is that the path is employee involvement, and education (in general, although not in this specific case) is seen as an important tool in the overall process.

Part Three: The parameters of the initial program

One hundred and sixty-six workers (more than half) had responded to a needs assessment questionnaire circulated among manufacturing workers by the Action Center to determine whether "employees having a problem communicating in English are interested in developing their ability to read, write and speak English if given the opportunity to do so." Fifty indicated they would be interested in participating in ESL classes that aimed to: 1) improve communication; 2) improve worker/supervisor and worker/worker relations; 3) increase linguistic minority access to promotional opportunities.

Satisfied by this response, the action team sought out an educational provider in the area to work with them, and applied for funding as part of the Massachusetts Workplace Education Initiative. It is at this point that my knowledge becomes direct and experiential of the changes going on in the company.

As planning for the new program began, the Action Center was replaced by a Project Advisory Board that included the VP of Human Resources and representatives of the education provider as well as several members of the Action Center. In response to the fairly generic initial goals for the program, the curriculum used in the first six months had a strong initial focus on "life stories and living environment." Management's concern with preparing workers for the transition within the company from

mechanical to electronic assembly as well as to participate in some of the employee involvement strategies being introduced was expressed primarily through guest appearances by UE staff members to discuss such topics as company products, KAN-BAN, blueprint reading, Action Centers and company benefits.

The approach utilized in the first year of bringing in production supervisors and other United Electric staff to teach these classes tended to reinforce the split between these technical workplace skills and the facilitative language skills taught by the teacher. To this point, the ESL class was simply the forum for discussion of these ideas -- there was no formal integration of education with company goals.

Perhaps the clearest sign of this lack of integration was the measures initially identified by the partnership for knowing if students were making progress. These measures were predominantly traditional educational ones: the achievement of specific competencies; the advancement from one MELT level to another; the transition to higher levels of education (in or outside the company) and transfer to higher paying or more skilled jobs. By the time the Workplace education evaluator made her first site visit to the program in the spring of 1988, concerns about the usefulness of these measures were already emerging.

At UE, the site visit surfaced conflicting expectations

Evaluation Site Visit

Instituted in order to look closely at how programs were developing, the evaluation site visit included interviews with all members of a program partnership -- teachers, students, supervisors, and management, and SDA staff -- both individually and as a group, as well as classroom observation and review of materials. Interviews followed a protocol carefully designed to probe attitudes and investments of each partner, as well as to explore barriers to successful implementation of each component of a program, from recruitment through testing, and strategies for overcoming barriers successfully. As a result, the occasion of the site visit tended to provide an opportunity for local partners to reflect upon the program: to compare what actually was happening with expectations and to make decisions about what comes next.

between learning provider and management regarding outcomes. While both agreed that there was a need to establish realistic outcomes and measurements, management was concerned about the bottom line -- that the company get a short term return for it's rather generous investment of time release for participating workers. (40 workers times 6 hours of time release per week for 40 weeks a year). On the other hand, the learning provider expected and was beginning to see some real changes in worker self-esteem. From management's point of view, such changes might

be praiseworthy, but they were difficult to measure and difficult to see the concrete value of in terms of the bottom line.

The evaluator's summing up of this issue pointed at how central it was: "The question of measuring student progress looms large in a company where management wants to witness advances in specific learning areas. Developing a curriculum for blueprint reading should help to establish some competencies which can stand as an objective measure of progress for students, teacher, and management alike." (p. 46, WPE Eval, Year II).

Notice what's happening here. The conflict between the company's past and its future is being played out in this class. The company in truth has both short term goals ( preparing workers for electronic assembly) and long term goals (preparing workers to participate in the continuous improvement process, using reliable methods). The initial goals for the course focused on the long term goals. Since however the framework for the class was preparation for action, the company got frustrated with the very generic results it was getting.

Instead of figuring out a way to develop a curriculum and measures that would be more appropriate to the long term employee involvement goals, the UE team tried to refocus the course on the short-term preparation for electronic assembly goals. They now had an easy to measure goal: whether workers were developing the

skills in blueprint reading requisite to successful transition from mechanical to electronic assembly.

The problem, of course, is that UE now had a very nice, traditional workplace course that was training people for their present instead of educating them for their future. While students' skills improved in the discrete task of blueprint reading, hence, in performing a specific portion of their job better, that's all that happened. Improvements in students' skills were focused on a discrete, fixed goal, while the goal of the company was to engage all workers' in a continuous process of small, everyday improvements. In short, the battle UE had won did not bring them any closer to winning the war. There was no congruence between the goals and process of the basic skills class and the overall company goals and process. Somehow, the company had to come up with an educational process that would prepare their workers to use any tool -- not just one; a human resource development process -- as opposed to a training process -- that engaged workers' in continuous learning so each employee could help ensure continuous improvement.

There was another problem UE discovered with this fixed or remedial approach to assessment and instruction in blueprint reading. In focusing the attention of the Workplace Education Advisory Board on the specific competencies associated with blueprint reading, it relegated to secondary, unmeasurable status

a host of impacts reported by supervisors which were in fact more congruent with the overall company goal. These impacts on workers and the workplace, including such variables as "improved worker self-esteem", "improved worker morale," "transformation of the work culture", "better communication, "more willingness among workers to fix things themselves," were being described in glowing terms by more and more supervisors. And yet, the sanctioned set of measurements threatened to reduce these transformative factors to a "halo" effect at best.

By the winter of '89, when our workplace education initiative was beginning it's own investigation of outcomes, UE was ready to rethink it's approach to workplace education.

**Part 4: Moving Toward the Future**

During the Spring and Summer of 1989 teachers in UE's ESL program began to participate in workshops that were training UE employees in the "Reliable Methods" the company was instituting for problem-solving and continuous improvement. Little by little, ESL classes shifted to a focus on providing non-English speakers extra opportunity to learn the terminology associated with these methods and to practice using them in a supportive environment. The primary distinction between these classes and

other employee involvement workshops was that practicing English was an explicit goal as well as learning reliable methods.

The content and expectations of the ESL classes were now more consonant with the overall continuous improvement approach. Education was no longer seen as preparation for action but one mechanism among many for increasing employee participation. In many ways, the ESL program was becoming incorporated into the overall human resource development plan, an embodiment of the philosophy that "Education is the first action."

When it came to assessing the impact of the basic skills class, however, the company still had a split approach. The teachers felt impelled to include among the measures of success they used measures of improved use of English, both in class and on the floor. They found however that supervisor and co-worker response to impact assessments focused less on changes in ability to use English than on changes in participation. For example, one student persisted in speaking her native Italian on the shop floor despite two years in English class. However, her active participation in the company's ValUEd Ideas program, contributing several ideas for improving her work that were successfully implemented for cost-savings (earning her $100 per idea), and her role in several problem-solving teams demonstrated her increased understanding of her work in relation to the whole. And she as well as her supervisors attributed the change to the ESL class.

Given these desired changes, was it important that she didn't speak English? was it even relevant? what ought to be the measures of success for the ESL classes? Little by little the ESL Advisory Board was coming to the realization that English language proficiency was an inadequate proxy for what the company really was looking for: increased participation.

This past spring the company began to put this recognition in action, constructing a data base that compared participation rates (in ValUEd Ideas, CEDACs) of students before and after participation in ESL classes, as well as comparing participation rates of students with non-students.

**Part Five: The Meaning of Continuous Learning**

This change in the ESL class was taking shape at the same time as Human Resource VP Fred Ritzau was struggling with how to express the company's commitment to continuous learning in its 1991 Strategic Plan or "X matrix." One of the goals for the year would focus on education. It needed to be measurable. How to phrase it? Drawing on what been learned over the past four years with the ESL class, we brainstormed possibilities. In the process, several things became clear:

1) It didn't make sense to focus measures on participation in education, setting goals like "every worker will participate in 40 hours of education per year."

2) Nor did we want to limit the definition of education to something that went on in a classroom. We decided to talk about "learning" instead of education to communicate the openness of this definition.

3) The bottom line we had been struggling with was that we believed that education was critical to increase productivity. Why not make that connection explicit in the company's education related goal statement.

This led to the following goal:
"Increase productivity through company-wide learning and practice of reliable methods."

The measures established were not education measures but productivity measures:

* to improve productivity by 10%
* to increase inventory turnover by 15%

How was the company to measure progress toward these outcomes? Human Resources approached the issue with a series of questions:
1) What kind of productivity improvements will result from company -wide learning?

* productivity that results from workers having new skills in reliable methods (problem-solving);

* productivity that results from workers being multi-skilled, having skills in other jobs than their own (cross-training).

2) What kind of learning situations can be set up to enable everyone in the company to learn these things?

3) How will we know when they've learned it?

The process set up to implement the new plan was an important first step to answering these questions. X-matrix workshops took place last winter for groups of employees (typically work cells, but the ESL classes also constituted themselves as a group) in which each employee had to identify two concrete ways they could contribute as individuals and as a group to achieving the goals set. As part of this process, workers were also asked to identify what they thought they would need to learn in order to make these contributions.

Simultaneously, a Human Resources Committee made up of employees from across the company has developed a skills index that lists the full range of continuous improvement skills, safety and health related skills, and job specific skills. Workers from all across the company are completing this index, as individuals and as team and unit members. Correlating these skills reports with specific measures by unit on inventory turnover, parts reduction, sales/shipment of new product and

existing products will give a base line for the start of the process to be compared with accomplishments on all measures at later points in the process.

What does all this mean for the workplace ESL program? My guess is that it will continue to change in responses to changes throughout the company, becoming more and more fully integrated as the company more fully implements its commitment to continuous learning. When Bob Reis, Company CEO presented the X-matrix to employees, he noted that three key elements were not explicit in it -- quality, customer satisfaction and education -- because they were in fact the basis on which the entire plan was built. "Education, " he said, "is the means to achieve our goals, not the goal itself...Education can be the most powerful weapon that can change UE. [It] was the key to UE's [winning of the Shingo prize], and it will continue to be the first action in our improvement process."

This kind of integration and institutionalization is the goal of all our workplace efforts. The view of company-wide learning they embody are based on a vision of every worker as an important contributor, decision-maker and profit-sharer or as UE calls it, "a partner in prosperity." I hope this narrative of UE's progress along the path from traditional to high performance work organization has stimulated all of you to think in new ways about the dynamic relationship between the shape and values of a

workplace education program and the values, structures and culture of the organization it is part of...and to see some of the opportunities you can create or take advantage of (as provider, funder or evaluator of workplace education programs) to stimulate that progress toward high performance work organization.

Thank You.

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# WORKPLACE EDUCATION IN CONTEXT:

# A CHART COMPARING TRADITIONAL AND HIGH PERFORMANCE

# WORK ORGANIZATIONS

| TRADITIONAL ORGANIZATION | HIGH PERFORMANCE ORGANIZATION |
|---|---|
| **View of Production Process** | **View of Production Process** |
| Emphasis on large-lot manufacturing. | Emphasis on customization. |
| Build inventory. | Build to order. |
| 5-10 year period from research/product development to introduction of new product. | Shorten turn around times. |
| Infrequent new product introduction. | More frequent new product introduction; more product variety. |
| Focus on ultimate customer. | Focus on chain of customers (each worker produces for next station on line). |
| Scientific management approach (Taylorism): goal is to break complex jobs into simple rote tasks which worker can repeat with machine-like efficiency. | Continuous improvement approach: goal is to involve every member of workforce in process of improving quality, efficiency and customer satisfaction. |
| Emphasis on cutting costs. | Emphasis on growth in productivity. |
| Major mechanism for impacting productivity: add/subtract hours; speed-up for more work/hr. | Major mechanism for impacting productivity: no rework for more work/hr. |
| | Emphasis on elimination of waste through over-production, storage, transportation, waiting, defects, motion, unnecessary processing. |
| **View of Work Organization** | **View of Work Organization** |
| Chain of command hierarchy. | Participatory management style. |
| Multiple levels of management necessary. | Fewer layers of management. |
| Management functions to control workers, maintain status quo. | Management functions as "coach". |
| Management treats employees as "hands". | Management treats workers as "partners in prosperity," people with solutions who deserve respect. |
| Worker is not a whole person (check your brains at the door). | Worker is whole person (head and hands). |

**View of Work Org (cont'd)**

Work performed on line, by individuals working on task alone.

Workers' job is to follow same procedures at an established pace.

Emphasis on repetition.

Premium on worker reliability, steadiness, willingness to follow directions.

Workers expendable, interchangeable.

Cost = driving factor, therefore workers fear that improvements will lead to elimination of jobs.

**Role of Workplace Education**

Company does not have long term strategy that integrates education and training into overall business plan.

Company distinguishes between education and training for management and line workers.

Goals for education and training are short-term, problem-centered (let's fix it!).

ROI for plant is long term; for education, short term.

Workplace Education is preparation for action.

Workplace education is remedial; focuses on filling gaps in workers ability to perform job-specific skills.

Presumed conflict between education and production (workers not given time release for participation).

**View of Work Org (cont'd)**

Work done in self-managing work cells, by individuals working in teams.

Worker's job is to continuously improve his/her part of the process in relation to the whole; to better meet needs of customer (next step in production process).

Emphasis on problem-solving.

Premium on worker inventing new ways to eliminate waste, do job more efficiently.

Workers respected as equals w/ managers, valued according to contributions.

Improvement = driving factor, therefore workers rewarded for improvements.

**Role of Workplace Education**

Education and training conceived as part of long term strategic plan for continuous improvement.

Company puts a premium on "developing and realizing the full potential of the entire workforce".

Goals for education are long-range as well as short term (remedial plus).

ROI for education is long term.

Workplace Education is Action.

Workplace education is more than remedial; focuses on building skills for continuous improvement and flexibility (cross-training) as well as job specific skills (education model).

No conflict perceived between production and education (education takes place on work time).

| **Development and Implementation of Workplace Education Program** | **Development and Implementation of Workplace Education Program** |
|---|---|
| Top management not invested in goals and outcomes of workplace ed program. | Top management invested in setting goals and outcomes for workplace ed program. |
| Neither workers, supervisors, or unions involved in process of planning, implementing and evaluating wpe program. | Participatory planning, implementation and evaluation process involving management, workers, union (where approp) and educators. |
| Decisions on what and who to teach are based on audit of job task specific deficits. | Decisions on what and who to teach are based on company-wide continuous improvement goals and needs defined by specific work cells. |
| Testing is separate from instruction. | Testing is integrated into instruction. |
| Content of instruction tends to be narrowly job specific (split between individual as worker and learner). | Basic skills taught within framework that focuses on continuous improvement skills. |
| Efforts to measure outcomes tend to be (1) self-reflective (focused on educational gains) and (2) insofar as focused on performance, look at short term job-specific skill gains. | Company develops approach to measuring outcomes that focuses on impact on individual worker performance and on organizational goals. |
| No plans for institutionalization of program. | Company has plans not only for institutionalization but also for better integration of education into on-the-job practices. |

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This chart was developed by Sondra Stein and Laura Sperazi. Information was drawn from a wide range of resources, including: Made in America; America's Choice; Application Guidelines for Malcolm Baldridge Quality Award; "Do Workplace Literacy Programs Promote High Skills or Low Wages?" by Tony Sarmiento in Labor Notes; articles and discussions about United Eleectric Controls, including "Tradition and Change: The Role of Workplace Education in the Transformation of the Workplace", an article in progress by Sondra Stein and Fred Ritzau; and research conducted by Laura Sperazi et al. for the Massachusetts Workplace Education Initiative, 1987-1991.